

WHAT IS CLAIMED IS:

1. A method of administration of private keys for a  
2 plurality of users for use to encrypt or decrypt items  
3 transmitted via a network, there being for each user a  
4 respective set of an ID, user identifying information,  
5 private key, and public key corresponding to the private  
6 key, said method comprising:

7 receiving via the network a user's ID;

8 reading from a storage means data corresponding to the  
9 user having the received ID, which data comprises the user's  
10 private key encrypted using a key determined from  
11 identifying information of the user; and

12 sending via the network the encrypted private key,  
13 whereby the encrypted private key can be received and  
14 decrypted at the location of the user using the user's  
15 identifying information.

1. The method of Claim 1, wherein the user identifying  
2 information comprises a passphrase entered by the user at  
3 the user equipment, or biometric information which is  
4 obtained from the user by suitable measurement or scanning  
5 at the user equipment.

1. The method of Claim 1, wherein the data read <sup>from</sup> said  
2 storage means further comprises the user's public key, and  
3 the method further comprises receiving a digital signature  
4 manifesting the user's approval of a document, which digital  
5 signature represents a computed hash of the approved  
6 document encrypted using the user's private key, and  
7 verifying the received digital signature by decrypting the

8       digital signature using the user's public key and comparing  
9       the result of this decrypting with an independently computed  
10      hash of the document.

A       1       4.     The method of Claim 2, wherein the data read <sup>from</sup> said  
2       storage means further comprises the user's public key, and  
3       the method further comprises receiving a digital signature  
4       manifesting the user's approval of a document, which digital  
5       signature represents a computed hash of the approved  
6       document encrypted using the user's private key, and  
7       verifying the received digital signature by decrypting the  
8       digital signature using the user's public key and comparing  
9       the result of this decrypting with an independently computed  
10      hash of the document.

1       5.     A method for obtaining and using a private key at user  
2       equipment via a network, said method comprising:

3               transmitting from the user equipment an ID of a user;  
4               receiving a private key of the user encrypted with  
5       a user identifying key associated with the user; and  
6               decrypting the encrypted private key using a user  
7       identifying key determined from interaction with the user at  
8       the user equipment;  
9               using the decrypted private key; and  
10          destroying or avoiding making any non-volatile record  
11       of the private key at the location of the user.

1       6.     The method of Claim 5, wherein the user identifying key  
2       determined by interaction with the user at the user  
3       equipment is determined from a passphrase entered by the  
4       user at the user equipment or biometric information which is

5        obtained from the user by suitable measurement or scanning  
6        at the user equipment.

1        7. A method as claimed in Claim 5, wherein the decrypted  
2        private key is used by:

3              computing a hash of a document to manifest the user's  
4        approval of the document;

5              encrypting the hash using the user's private key; and  
6        transmitting the encrypted hash.

1        8. A method as claimed in Claim 6, wherein the decrypted  
2        private key is used by:

3              computing a hash of a document to manifest the user's  
4        approval of the document;

5              encrypting the hash using the user's private key; and  
6        transmitting the encrypted hash.

1        9. A method as claimed in Claim 5, wherein the decrypted  
2        private key is used by:

3              computing a hash of a document to manifest the user's  
4        approval of the document;

5              encrypting the hash using the user's private key; and  
6        transmitting the encrypted hash.

1        10. A method as claimed in Claim 6, wherein the decrypted  
2        private key is used by:

3              computing a hash of a document to manifest the user's  
4        approval of the document;

5              encrypting the hash using the user's private key; and  
6        transmitting the encrypted hash.

*SUB*  
*B3A*  
1 1. A system for administering private keys for a plurality  
2 of users comprising computer readable storage means  
3 characterized in that there is stored therein respective IDs  
4 and encrypted private keys for the respective users which  
5 private keys have been encrypted using respective keys  
6 determined from respective user identifying information.

1 12. The system of ~~Claim 11~~, wherein the user identifying  
2 information comprises a passphrase or biometric information.

*SUB*  
*B4*  
1 13. A system as claimed in Claim 11, characterized in that  
2 there is further stored in the storage means respective  
3 public keys corresponding to the private keys for the  
4 respective users.

1 14. A system as claimed in Claim 12, characterized in that  
2 there is further stored in the storage means respective  
3 public keys corresponding to the private keys for the  
4 respective users.

*SUB*  
*B5A*  
1 15. A system as claimed in Claim 11, further comprising a  
2 server for accessing the storage means, characterized in  
3 that the server is configured for reading from the storage  
4 means an encrypted private key and corresponding public key  
5 associated with an ID corresponding to a particular user,  
6 for transmitting the encrypted private key to the particular  
7 user, and for decrypting data received from the user using  
8 the public key.

1 16. A system as claimed in Claim 12, further comprising a  
2 server for accessing the storage means, characterized in

3 that the server is configured for reading from the storage  
4 means an encrypted private key and corresponding public key  
5 associated with an ID corresponding to a particular user,  
6 for transmitting the encrypted private key to the particular  
7 user, and for decrypting data received from the user using  
8 the public key.

1 17. A system as claimed in Claim 15, characterized in that  
2 the server is further configured for computing a hash of a  
3 document and comparing the computed hash with the decrypted  
4 data.

1 18. A system as claimed in Claim 16 characterized in that  
2 the server is further configured for computing a hash of a  
3 document and comparing the computed hash with the decrypted  
4 data.

1 19. A system as claimed in Claim 16, further comprising at  
2 least one user terminal interconnected via a network to the  
3 server, characterized in that the user terminal is  
4 configured for transmitting to the server via the network an  
5 ID entered by the user, and for receiving and decrypting an  
6 encrypted private key received via the network from the  
7 server using a user identifying key determined from a  
8 passphrase entered by the user or biometric information  
9 obtained by measuring the user.

1 20. A system as claimed in Claim 18, further comprising at  
2 least one user terminal interconnected via a network to the  
3 server, characterized in that the user terminal is  
4 configured for transmitting to the server via the network an

5       ID entered by the user, and for receiving and decrypting an  
6       encrypted private key received via the network from the  
7       server using a user identifying key determined from a  
8       passphrase entered by the user or biometric information  
9       obtained by measuring the user.